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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,487	02/26/2004	Gregory Kaduchak	S-100,597	7990

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EXAMINER	
TABATABAI, ABOLFAZL	
ART UNIT	PAPER NUMBER
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,487	KADUCHAK ET AL.	
	Examiner	Art Unit	
	Abolfazl Tabatabai	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/26/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,2 and 4-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Blumenfeld et al (U. S. 6,867,851 B2).

Regarding claim 1, Blumenfeld discloses an apparatus for directly imaging small particles consisting essentially of:

an integrated array of light sensitive pixels (please note, to column 16, lines 31-37, which the detector pixels of suitable electronic light detector arrays may integrate light emission with time, in much the same way that longer photographic exposure is used to develop faint images) having a surface configured to receive the small particles within a distance effective for the particles (please note, to column 10, lines 36-43 and column 12, lines 57-64) to affect the pixel readout amplitude (please note, to column 28, lines 41-44) and where the pixels have an area on the order of the area of the small particles to be directly imaged (please note, to column 6, lines 4-11);

a light source for illuminating the integrated array (please note, to column 16, lines 31-37); and,

means for displaying an output from the pixels to provide an image of the small particles directly contacting the surface of the array (please note, to column 12, lines 1-4 and column 16, 46-54).

Regarding claim 2, Blumenfeld discloses the apparatus of claim 1, wherein the integrated array of light sensitive pixels is selected from the group consisting of CCD arrays and CMOS arrays (please note, to column 9, lines 18-21).

Regarding claim 4, Blumenfeld discloses a method for directly imaging small particles comprising:

forming an integrated array of light sensitive pixels having a surface configured to receive the small particles within a distance above a light sensitive surface of the pixels effective to detect selected characteristics of the small particles (please note, to column 14, lines 36-39 and column 18, lines 32-37);

placing the small particles directly on the surface of the pixels (please note, to column 14, lines 1-10);

outputting an image signal from individual ones of the light sensitive pixels (please note, to column 31, lines 13-19); and,

displaying the image signal to provide a visualization of the small particles (please note, to column 12, lines 23-30 and column 14, lines 18-21).

Regarding claim 5, Blumenfeld discloses the method of claim 4, further including the step of selecting an integrated array having pixel sizes less than the size of the small particles (please note, to column 9, lines 23-28).

Regarding claim 6, Blumenfeld discloses the method of claim 4, further including

the step of illuminating with a collimated light source the integrated array of light sensitive pixels having the small particles on the surface of the pixels (please note, to column 21, lines 61-66).

Regarding claim 7, Blumenfeld discloses an apparatus for directly imaging small particles comprising:

an integrated array of light sensitive pixels (please note, to column 16, lines 31-37) having a surface configured to directly receive the small particles within a distance effective for a selected characteristic of the particles to be directly detected by the light sensitive pixels and where the light sensitive pixels have an area on the order of the area of the small particles to be directly imaged (please note, to column 6, lines 1-9 and column 14, lines 18-21); video means for displaying an output from the light sensitive pixels to provide an image of the selected characteristic of the small particles directly contacting the surface of the array (please note, to column 9, lines 54-61).

Regarding claim 8, Blumenfeld discloses the apparatus of claim 7, wherein the integrated array of light sensitive pixels is selected from the group consisting of CCD arrays and CMOS arrays (please note, to column 9, lines 18-21).

Regarding claim 9, Blumenfeld discloses the apparatus of claim 8, where the selected characteristic is selected from the group consisting of: absorption (please note, to column 16, lines 31-33), light scattering (please note, to column 11, line 38 and column 19, lines 29-33), and light emission (please note, to column 30, lines 9-11).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenfeld et al (U. S. 6,867,851 B2) in view of Fein et al (U. S. 2004/0159773 A1).

Regarding claim 3, Blumenfeld is silent about the specific details regarding the apparatus of claim 2, where the pixel area is less than 5 micron square.
In the same field (imaging system) of endeavor, Fein discloses system and methodology comprises the pixel area is less than 5 micron square [please note, page 6, column 2, paragraph (0057)].

It would have been obvious to a person of ordinary skill in the art at the time to use the pixel area is less than 5 micron square as taught by Fein in the system of Blumenfeld because Fein provides Blumenfeld an improved biological material imaging systems which is enable the production of improved images (higher Effective Resolved Magnification (ERM), improved Absolute Spatial Resolution (ASR), improved depth of field (please note, to page, 19, column 1, paragraph [0231].

Other Prior Art Cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cresswell et al (U. S. 5.6,218,211) disclose system for sampling the sizes,

geometrical distribution, and frequency of small particles accumulating on a solid surface.

Hornbeck (U. S. 5,061,049) discloses spatial light modulator and method.

Grady (U. S. 7,135,686 B1) discloses low noise x0ray detector for fluoroscopy.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (571) 272-7458.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Bhavesh Mehta, can be reached at (571) 272-7453. The fax phone number for organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abolfazl Tabatabai

Patent Examiner

Technology Division 2624

April 12, 2007

A-Tabatabai